

Customized solutions for different type of process carriers like SMT with puller or pusher mechanism, Reflow, Coating, Flex PCB, AOI, X-Ray, Flying Probe can be offered.

## SMD PROCESS CARRIER

# CARRIER AND FIXTURES FOR ELECTRONIC MANUFACTURING

## SELECTIVE SOLDERING PALLETS

Wave Pallets are designed to allow soldering of through-hole component leads where critical SMT components on the same side are secured.

## TITANIUM



## INSERT PALLETS

Sealwalls as thin as 0,4mm thickness is possible.

## CONFORMAL COATING CARRIER

Even Coating possibility with evenly supported PCB

## PRESSFIT FIXTURE

Pressfit Fixtures are used, where a certain amount of force is required to insert the connector into the board.

## UNIVERSAL PALLETS

Interesting alternative for low quantity Production or Prototypes with adjustable X-Y center bars for different PCB width.

## DEPANELING CARRIER

Depanelizing solution for stress free, safe and easy PCB Cuts



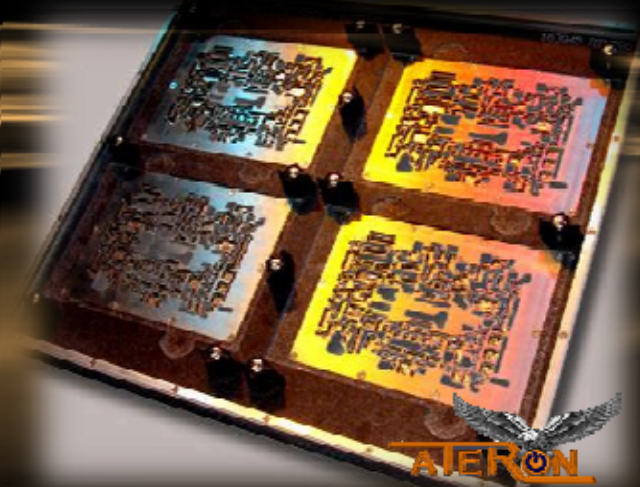


# SELECTIVE SOLDERING PALLETS

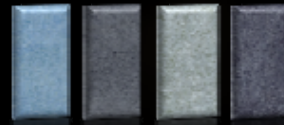
**Wave Solder Pallets:** Wave Pallets are designed to allow soldering of through-hole component leads where critical SMT components on the same side are secured. ATERON LTD produces Wave Solder Pallets for all kind of Wave Solder Machines for valuable price, where you can reduce your cycle times, no need for manually masking and to optimize your wave solder process by our experienced design engineers. Below some justifications to use Wave pallets:

- Gluing Process, Manual masking and Kapton Tape Process is eliminated and components are secured from high temperature on solder bath by the fixture.
- Eliminates recurring breakaway tab costs for odd-shaped PCB's.
- Reduced rework and touchup costs because of better soldering quality. Gives opportunity to secure and alignment of critical and expensive components with over head tooling.
- Eliminates additional costs of panel up layouts and depanelising.
- Allows to process with multiple PCBs at one runtime.

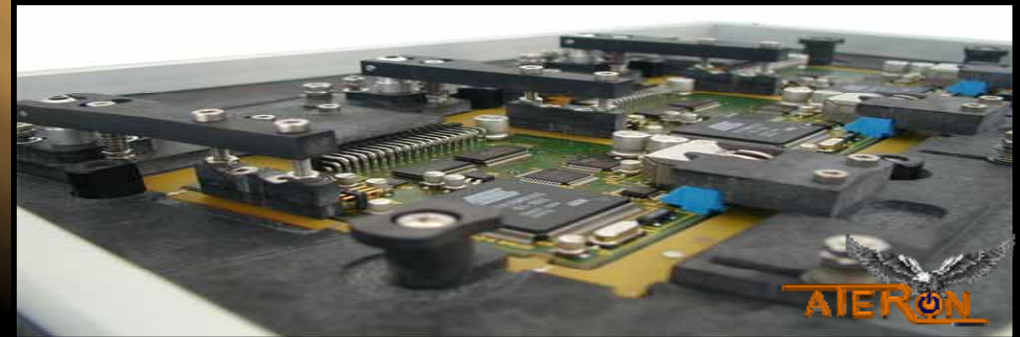
**Holddown Covers for specific applications:** Mostly used to hold down the top side components and to prevent warpage on large PCB's. You can reduce your setup time with our spring loaded hinged or detachable mechanism, which is custom designed for each application.



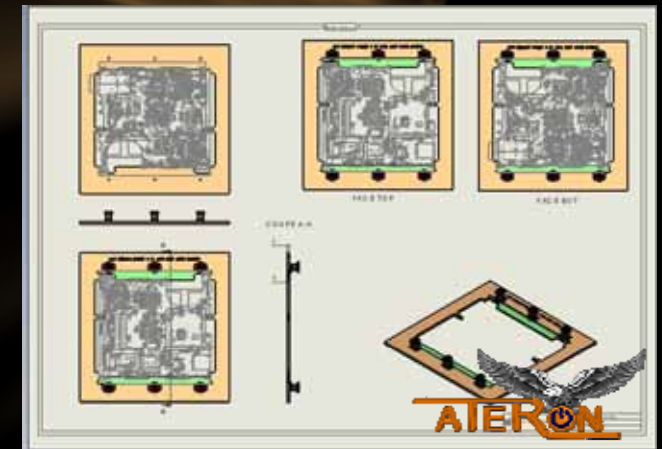
**SMT Process and Reflow Carriers:** specially designed for odd-shaped PCB's and for components which are placed on the edge of the board. Supports the board through Printing, placement and reflow process.



**Materials:** Besides commonly used Durostone Wave Pallet Material, we can offer different types of Basematerial to withstand the higher temperature requirement and more aggressive fluxes. Standard operating temperature 280° degrees and max. 380° degrees.



**Holddowns:** ATERON offers different type of PCB and Component Holddowns for your specific boards. Please ask for further fixing opportunities.



**Design is made accordingly the PCB and technical drawings are sent for customer approval.**



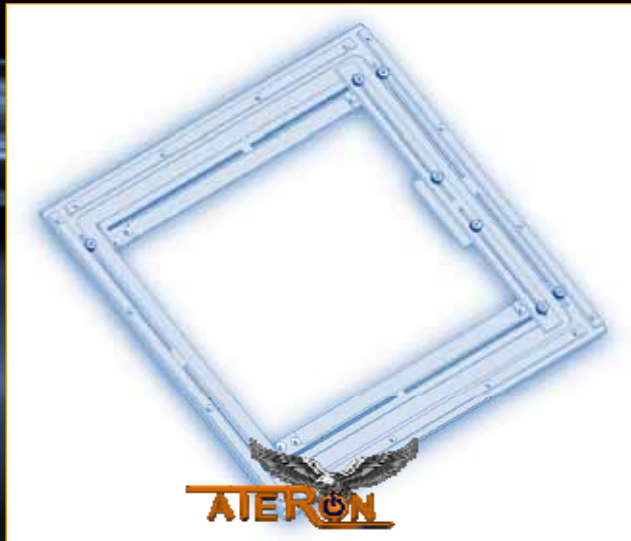


# UNIVERSAL PALLETS

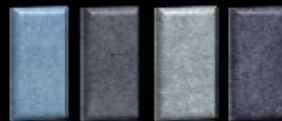
**Universal Pallets:** Any PCB shape can be processed through the Wave Soldering. Interesting alternative also for low quantity Production or Prototypes with adjustable center bars for different PCB width. ATERON LTD produces Universal Pallets for any kind of Wave Soldering Oven for valuable price, where you can reduce your cycle times.

Below some justifications to use Universal pallets:

- Any PCB can be made conveyor-friendly.
- Holddowns can be placed where ever they are needed.
- Centerbars will allow to adjust the pallet for all your PCB sizes.
- Optional metal edges can be used to add extra stability to the fixture.
- Eliminates additional costs of panel up layouts and depanelising.
- Allows to process with multiple PCBs at one runtime.



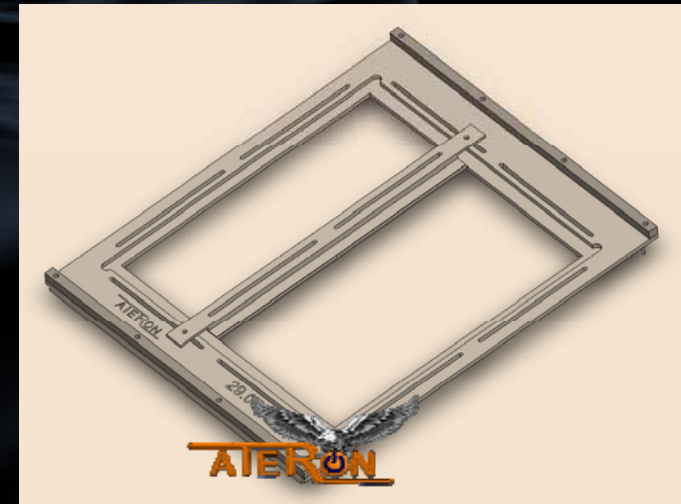
PCB that would be unable to be processed through wave soldering due to its shape or proximity of components to the PCB edge can be processed with ATERON's universal wave solder fixtures.



**Materials:** Besides commonly used Durostone Wave Pallet Material, we can offer different types of Basematerial to withstand the higher temperature requirement and more aggressive fluxes. Standard operating temperature 280° degrees and max. 380° degrees.



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We can offer solutions for different type of pallets for your wave soldering production lines. This way universal pallets are more useful than basic wave pallets which is used for each PCB separately. Due to the fact that every odd shaped board or special boards needs a carrier your storage areas will be fullfilled with special pallets. Universal Pallets of ATERON LTD can relieve your storage areas and will save costs.



# PROCESS CARRIERS

We can offer customized solutions for different type of process carriers for your SMT, Reflow, Coating, Flex PCB, AOI, X-Ray, Flying Probe or selective soldering processing.

Process Fixtures or Reflow Carriers for SMD Production Line: For flexible PCB processing on SMT Line, we can offer two different solutions: Both solutions has advantages and disadvantages, our engineers can recommend the best for the current job with a quote.

1. Pallets with two location pins and two moving puller pins to stretch the PCB flat. Thickness of the pallet is in that case usually 6mm but it's recessed at bottom and top part as possible and extra holes are drilled on the pallet for better air flow. It can be used with a simple top hat in case PCB is bigger and stretching is not enough.
2. Sticky boards is a more advanced solution, it's a special sticky tape, which is applied on the fixture after a few curing process on reflow oven. The tape is designed for reflow process and allows to be used from start to end of the line. No undersupport needed for printing if these boards are used. The PCB's are mounted on to the sticky boards with rubber roller (which makes sure the PCB always on the same place), then no other work needed till end of the line where PCB's can be removed with a simple Fixture.



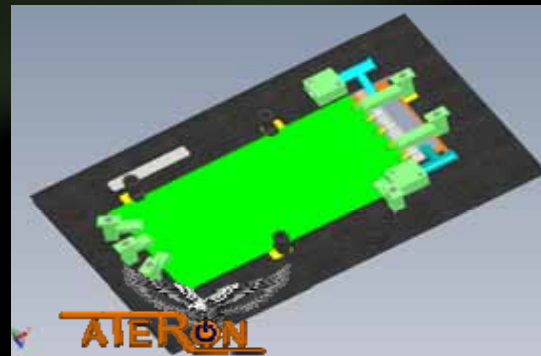
**Holddowns:** ATERON offers different type of PCB and Component Holddowns for your specific process carriers. Please ask for further fixing opportunities.



PCB that would be unable to be processed through SMT or reflow process due to its shape, proximity of components to the PCB edge or flexibility can be processed with ATERON's SMT Process fixtures.

Below some justifications to use Process Carriers:

- Any PCB can be made conveyor-friendly.
- Manual handling of PCBA needs to be reduced
- Flexi-circuits cause process issues
- Optional metal edges can be used to add extra stability to the fixture.
- Eliminates additional costs of panel up layouts and depanelising.
- Allows to process with multiple PCBs at one runtime.



Customized Selective Soldering Fixture with spring loaded connector support block for selective soldering equipments.



## Conformal Coating Carriers

made of composite material like Durostone or FR4 sheets.

- Reduce labor costs required by hand masking
- Prevents uneven coating by evenly supporting PCB





# ROUTING/DEPANELISING FIXTURES

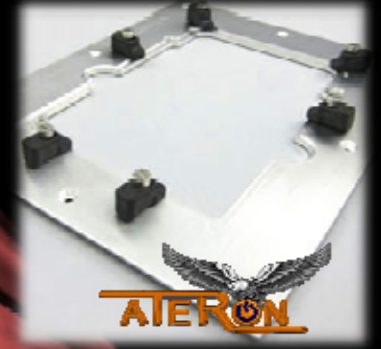
Think about your effort and work to create a new product. Do not apply stress on your final product to depanelize it. You can depanelize your repeated PCB safely and easily with our routing fixtures made of aluminium or composite material.. We can offer depanelising fixtures for different routing equipments.

Below some justifications to use Routing or Depanelising Fixtures:

- Any PCB can be made conveyor-friendly.
- Improve Depanelization
- Provides a more stable environment to reduce solder fractures
- Can be designed for manual or automated processes
- Can be designed to use with routing machines, with or without vacuum systems
- Allows to process with multiple PCBs at one runtime.



# AOI / X-Ray CARRIERS



There are several reasons that a panel cannot be inspected in the X-Ray Equipments without the use of a carrier. The following is a list of reasons to use a carrier:

- On the parallel edges of the panel that would be clamped in the system, the component to panel edge clearance does not meet the minimum specifications.
- The panel is not square or rectangular shaped.
- The panel size does not meet the minimum board specifications
- The panel is susceptible to warpage and requires support
- Multiple panels are to be inspected at the same time.

# Pick&Place MATRIX TRAYS

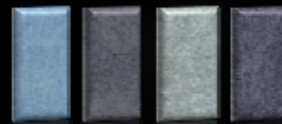




# PRESSFIT FIXTURES

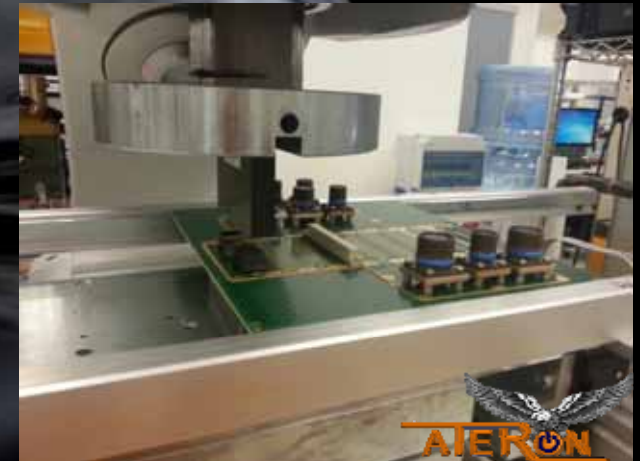
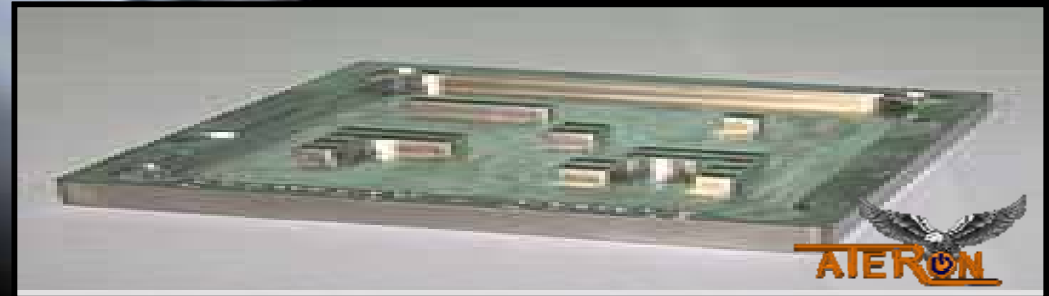
*During the assembly or placement process, where a certain amount of force is required to insert the connector into the board pressfit fixtures are used to secure the product. Those fixture allow to insert through-hole component leads into the board where your products are fully protected.* ATERON LTD produces Pressfit Fixtures, where you can reduce your cycle times, rework costs and pcb damages to optimize your THT placement process. Below some justifications to use Pressfit Fixtures:

- Pressfit component is completely supported.
- Secure and rigid placement of pressfit components without damages on PCB or component.
- Save costs and reduce your set-up time.
- PCB specific individual fixtures can be made.
- Universal fixtures can be made for a variety of boards.



CAS761, ALU 6061, G10

**Materials:** Besides commonly used Durostone CAS761 technical composites, we can offer different types of Basematerial like G10 or ALU6061 to withstand the higher pressure requirement.



## Key Features and Specifications:

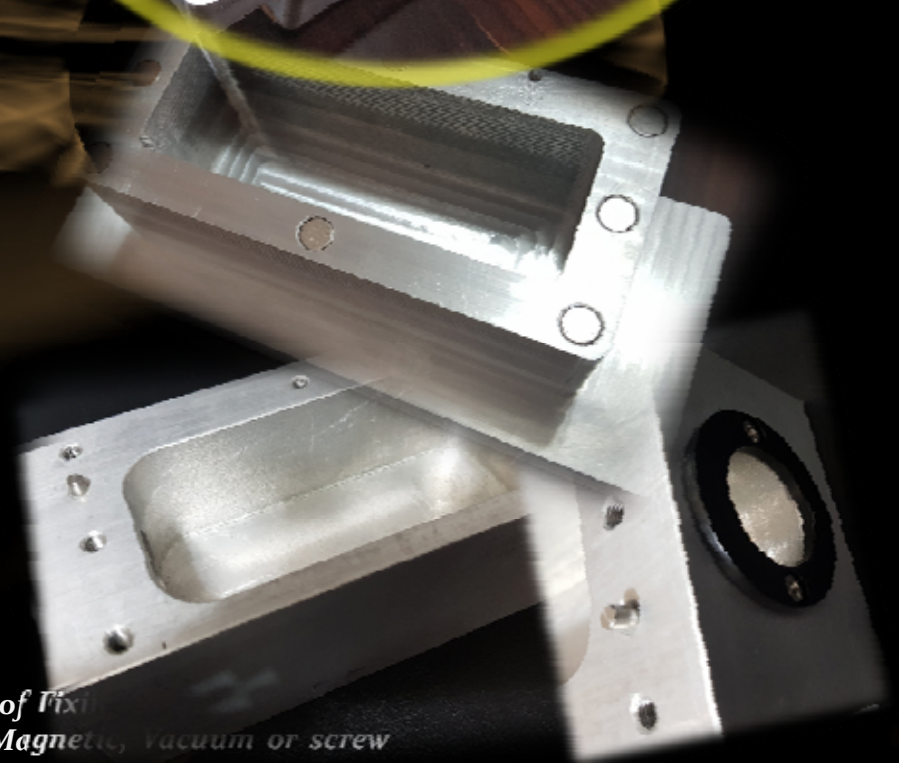
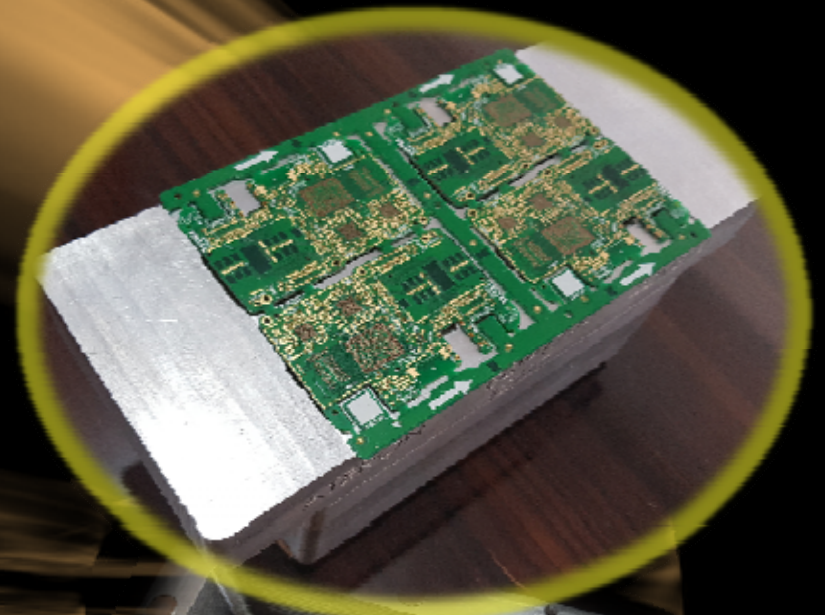
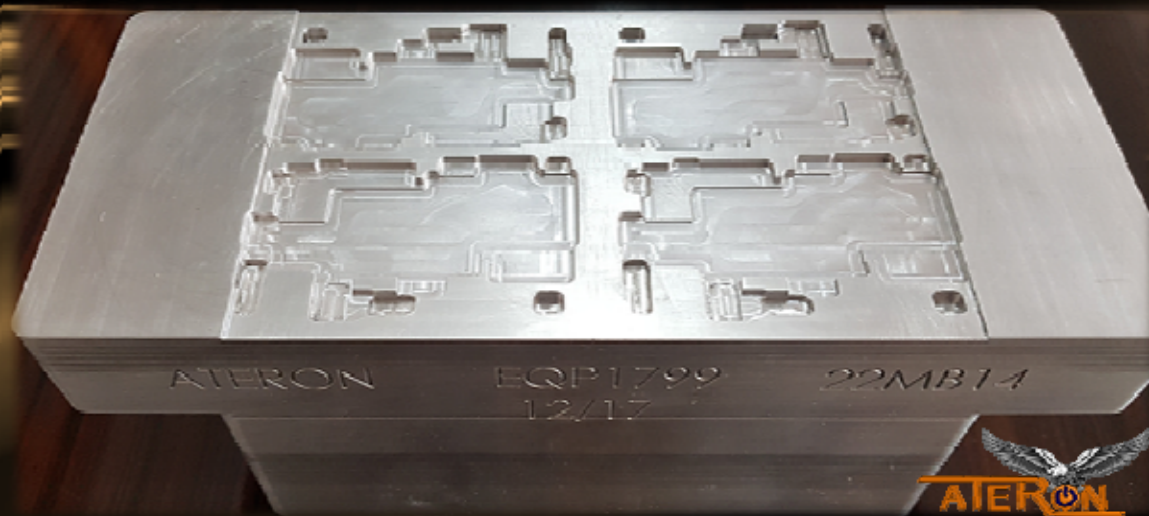
- Fixture made of aluminium or composite material to withstand high pressure placements.
- Each fixture is engraved with customer part number for easy identification.
- Pins to hold the PCB in position
- min. 0.5mm diameter holes for THT component leads.
- Accuracy of  $\pm 5\mu m$ .





# SCREENPRINTER & PICK AND PLACE SUPPORTING SYSTEMS

*Max. Support for the printing and pick & placement, through custom dedicated toolings from ATERON LTD. All free areas of a Printed Circuit Board are optimally supported and stay in contact with the Supporting Plate. The solderpaste printing quality results are much better than common magnetic or penumatic systems. Can be installed with magnetics or pins. Even flex circuit boards can be processed with a vacuum add-on. Reduces your preparation times, rework costs and pcb damages.*



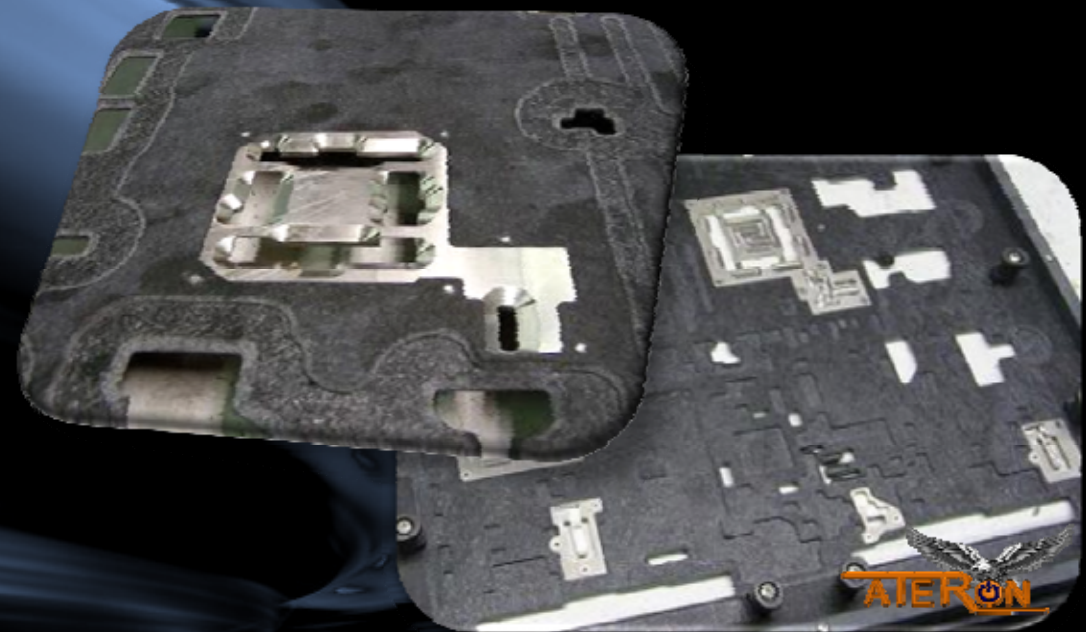
*We do offer different type of Fixing  
the Supportig Plates like Magnetic, vacuum or screw  
fixing tailored to your optimum process*



# SELECTIVE SOLDERING PALLETS WITH TITANIUM INSERTS

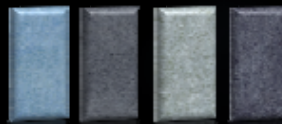
**Wave Solder Pallets:** Wave Pallets are designed to allow soldering of through-hole component leads where critical SMT components on the same side are secured. ATERON LTD produces Wave Solder Pallets for all kind of Wave Solder Machines for valuable price, where you can reduce your cycle times, no need for manually masking and to optimize your wave solder process by our experienced design engineers. Below some justifications to use Wave pallets with Titanium Inserts:

- PCB Design which does not allow to design a soldering fixture with below 1 mm sealwalls will be no problem anymore. The sealwall can be 0,4mm thick.
- Gluing Process, Manual masking and Kapton Tape Process is eliminated and components are secured from high temperature on solder bath by the fixture,
- Eliminates recurring breakaway tab costs for odd-shaped PCB's.
- Reduced rework and touchup costs because of better soldering quality. Gives opportunity to secure and alignment of critical and expensive components with over head tooling.
- Eliminates additional costs of panel up layouts and depanelising.
- Allows to process with multiple PCBs at one runtime.



**Holddowns:** ATERON offers different type of PCB and Component Holddowns for your specific boards. Please ask for further fixing opportunities.

**Holddown Covers for specific applications:** Mostly used to hold down the top side components and to prevent warpage on large PCB's. You can reduce your setup time with our spring loaded hinged or detachable mechanism, which is custom designed for each application.



CHP760, CAS761, CAG762, CFR767

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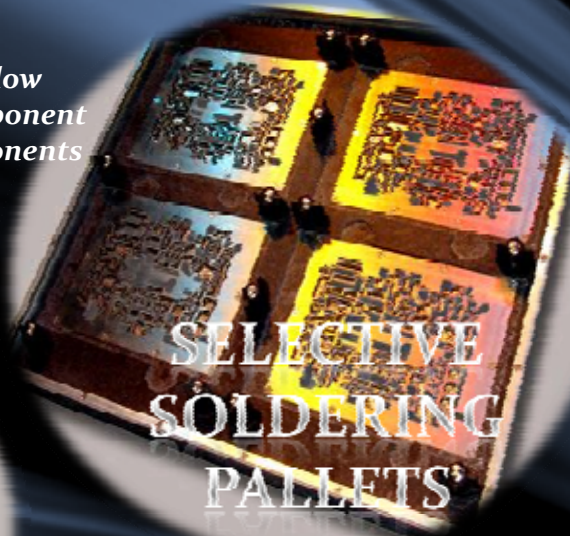
## Key Features and Specifications:

- ° 45° degrees Bevelled leading and Trailing edges.
- ° Solder Bars made of aluminium or composite material on all four sides are used to protect from solder flow on top side of the board.
- ° Spring loaded rotary hold downs to hold the board.
- ° Up to 60° degrees chamfer for solder openings.
- ° Board pocket 0,15mm larger than PCB on each side.
- ° 0,1mm clearance between SMT component and Pallet floor.
- ° Min. 0,4 mm sealwalls possible between THT component leads and SMT components.
- ° Optional Titanium Edges for extra durability of Pallet.
- ° Accuracy of  $\pm 5\mu\text{m}$ .





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**SELECTIVE  
SOLDERING  
PALLET'S**

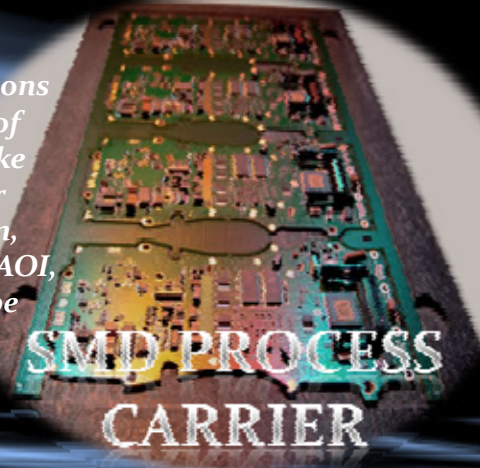
**TITANIUM**

*Sealwalls as thin as 0,4mm thickness is possible.*



**INSERT  
PALLET'S**

*Customized solutions for different type of process carriers like SMT with puller or pusher mechanism, Reflow, Flex PCB, AOI, X-Ray, Flying Probe can be designed.*



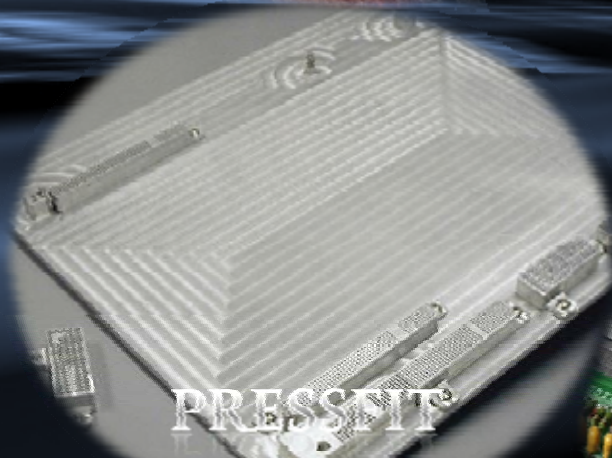
**SMD PROCESS  
CARRIER**

**CARRIER AND  
FIXTURES FOR  
ELECTRONIC  
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**CONFORMAL  
COATING  
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*Even Coating possibility with evenly supported PCB*



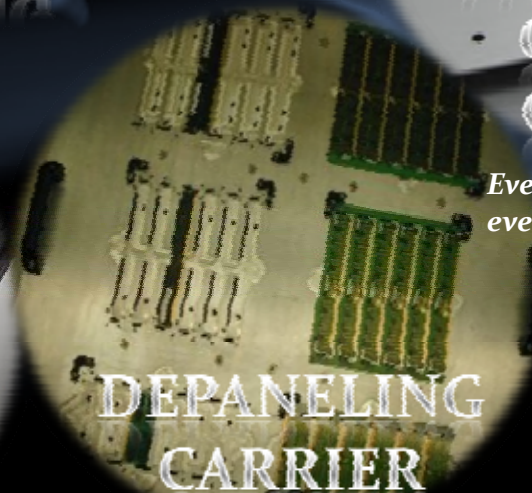
**PRESSFIT  
FIXTURE**

*Pressfit Fixtures are used, where a certain amount of force is required to insert the connector into the board.*



**UNIVERSAL  
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*Interesting alternative for low quantity Production or Prototypes with adjustable X-Y center bars for different PCB width.*



**DEPANELING  
CARRIER**

*Depanelizing solution for stress free, safe and easy PCB Cuts*

